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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,879	11/13/2003	Mohamed Khalil	P1029 (15710RRUS02)	2297

64458 7590 11/15/2007

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EXAMINER	
WONG, BLANCHE	

ART UNIT	PAPER NUMBER
2619	

MAIL DATE	DELIVERY MODE
11/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/712,879	KHALIL ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed August 17, 2007 have been fully considered but they are not persuasive.

With regard to claims 8-15, Applicant states that "the entire thrust of the invention is improving VPN communication by eliminating the exterior home agent". Response to Office Action dated June 14, 2007, p.11, lines 21-22. However, Examiner respectfully disagrees with respect to claims 1-7 and 16-20. Examiner notes that claim 8 has been amended to include "a single home agent", but claims 1 and 16 do not distinguish between an interior and exterior home agent and recites "a home agent". Therefore, the elimination of the exterior home agent is unfound in claims 1 and 16.

With regard to claims 8-15, Applicant states that "O'Neil does not teach, disclose, or suggest a VPN in any aspect or manner. It is thus impossible for O'Neil to teach, disclose, or suggest VPN, VPN-GW, a virtual private network tunnel address, or tunneling packets to, away, within a VPN." Response to Office Action dated June 14, 2007, p.11, lines 21-p.12, line 1. However, Examiner respectfully disagrees with respect to claims 1-7 and 16-20 that use O'Neil as the primary reference. Specification, p.8, lines 12-15, discloses "[a] VPN emulates a private network over a shared physical infrastructure. ..." O'Neil discloses several networks 530 and 540, and cells 501's that can be private networks of its own. Therefore, it is unclear from Applicant's statement how "O'Neil does not teach, disclose, or suggest a VPN in any aspect or manner" and

thus how "[i]t is thus impossible for O'Neil to teach, disclose, or suggest VPN, VPN-GW, a virtual private network tunnel address, or tunneling packets to, away, within a VPN."

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Furthermore, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

With regard to claims 1-7 and 16-20, Applicant states "there is no VPN-GW disclosed nor two separate nodes performing encapsulation/decapsulation for a VPN." Response to Office Action dated June 14, 2007, p.12, lines 9-10. However, Examiner respectfully disagrees. If Applicant is arguing an VPN-GW, such a limitation is not recited in the claim. In another word, an VPN-GW is a security gateway, but a security gateway is not necessary an VPN-GW. If Applicant is arguing two separate nodes performing encapsulation/decapsulation, such a limitation is not recited in the claim. In another word, no encapsulation/decapsulation is recited.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., VPN-GW, two separate nodes performing encapsulation/decapsulation) are not

recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Objections

2. Claims 11-15 are objected to because of the following informalities:

With regard to claim 11, Examiner suggests replacing "transmission to the mobile node" with "transmitting the information packet from the virtual private network to the mobile node".

With regard to claim 12, Examiner suggests replacing "the packet" in line 4 with "the information packet" for clarity.

With regard to claim 12, Examiner suggests replacing "the virtual private network gateway inside the virtual private network" in line 5 with "the virtual private network" for clarity.

With regard to claims 13 and 14, Examiner suggests replacing "appends the care-of address prior to transmitting the information packet form the virtual private network" in lines 4-5 with "appends the care-of address to the information packet prior to transmitting the information packet from the virtual private network to the mobile node" for clarity and consistency.

With regard to claim 15, Examiner suggests replacing "appends the virtual private network gateway address for routing packets to the virtual private network gateway" in lines 4-5 with "appends the virtual private network gateway address to the

information packet for routing the information packet to the virtual private network gateway" for clarity and consistency.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. **Claims 8-20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 8, it is unclear what is "a virtual private network gateway address used to route packets transmitted to the virtual private network gate from nodes outside the virtual private network" and what are "nodes outside the virtual private network" in lines 12-14.

With regard to claim 8, it is unclear what are "the addresses" in line 18.

With regard to claim 8, it is unclear whether "a virtual private network" in line 19 is the same as the "virtual private network" in line 5.

With regard to claim 8, it is unclear from where "into" the virtual private network, whether "outside" means out of the virtual private network and to where "outside" the virtual private network.

With regard to claim 11, it is unclear what is the "transmission" in line 4.

With regard to claims 13 and 14, it is unclear what/where is the care-of address appended to in line 4.

With regard to claim 15, it is unclear what/where is the virtual private network gateway address appended to in line 4.

With regard to claim 15, it is unclear what are the "packets" in line 4.

With regard to claim 16, it is unclear what is "designated with a gateway address" in line 8.

With regard to claim 16, it is unclear what are the "information packets" in line 12.

With regard to claim 16, it is unclear what is the use of the gateway address in line 8 and how that is different from the tunnel inner address in line 12.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1-7 and 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (Pub No. US2004/0047322) in view of Vaarala et al. (Pub No. US 2005/0177722).

With regard to claim 1, O'Neill discloses a mobile IP network **(Fig. 5)** comprising:

a corresponding node **(CN 542 in Fig. 5)** coupled to said home agent **(mobility agent node in Fig. 5)**.

However, O'Neill fails to explicitly show an information packet transmitted from the correspondence node that is encapsulated by the home agent before forwarding to the

security gateway for forwarding to the mobile node; and a virtual private network having a security gateway and a home agent, wherein said mobile node is connected to a foreign network and information packets are transmitted to the mobile node from the virtual private network, and wherein said security gateway on the virtual private network is connected to said home agent.

Vaarala discloses a mobile IP network comprising:

an information packet transmitted from the correspondence node that is encapsulated **(encapsulated, para. [0014])** by the home agent before forwarding to the security gateway for forwarding to the mobile node; and

a security gateway **(SGW, para. [0015)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine an encapsulated packet and a security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claims 2 and 3, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses a security gateway encrypts **(encrypt, para. [0006])** the information packet.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine encryption as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 4, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1. O'Neill further discloses a communication system that does not use an external home agent for forwarding the information packet to the mobile node **(PCCoA functionality is provided between the end node and the access node, does not need the assistance of the Home Agent to invoke that functionality, para. [0044])**.

With regard to claim 5, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses an information packet that includes an address **(see IPSec in packet in Fig. 2)** for the security gateway.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine an address for the security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 6, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses a virtual private network tunnel inner address **(see IPSec in packet in Fig. 2)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine a virtual private network tunnel inner address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 7, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses a security gateway **(SGW, para. [0015)** that transmits the information packet to the home agent to forward outside the virtual private network to the mobile node.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine a security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 16, O'Neill discloses a mobile IP network **(Fig. 5)**

providing a virtual private network associated with a mobile node **(end nodes 502,504 in Fig. 5, para. [0045])** connected to a foreign network **(communication cells 501 in Fig. 5, para. [0045])**;

forming an information packet for transmission **(data session)** to the mobile node **(end node N 504) (CN 542 operates as corresponding node in a data session with at least end node N 504, para. [0046])**; and

forwarding the information packet **(PCCoA – Proxy Colocate Care of Address)** to the mobile node without using an external home agent **(PCCoA functionality is provided between the end node and the access node, does not need the assistance of the Home Agent to invoke that functionality, para. [0044])**.

However, O'Neill fails to explicitly show providing a security gateway located on the virtual private network and connected to a home agent and a correspondence node on the virtual private network; and transmitting the information packet to the security gateway.

Vaarala discloses a mobile IP network transmitting information packet to the security gateway **(SGW) (packet routed from the originating host to a security gateway SGW, para. [0015])**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to include an address for a gateway. The suggestion/motivation for doing so would have been to route packets through the gateway. Therefore, it would have been obvious to combine a security gateway as taught in Vaarala, and a gateway address, with O'Neill , to obtain the invention as specified in claim 16.

With regard to claim 17, the combination of O'Neill and Vaarala discloses the method of packet-based communication to a mobile node from a correspondence node on a virtual private network of claim 16.

Vaarala further discloses encrypting **(encrypt, para. [0006])** an encapsulated information packet at the security gateway to forward to the mobile node.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine encryption at the security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 18, O'Neill further discloses

encapsulating the information packet at the home agent **(home mobility agent)** with an address **(PCCoA)** for the security gateway **(access node)** to use within the virtual private network to route packets to the security gateway **(forward and reverse tunneling is required using a PCCoA between the access node 505 and the home mobility agent 532, para. [0048])**.

With regard to claim 19, O'Neill further discloses

transmitting the information packet out of the virtual private network from the home agent **(forward direction, para. [0049])**.

With regard to claim 20, O'Neill further discloses

transmitting the information packet out of the virtual private network from the security gateway **(incoming direction, para. [0049])**.

Allowable Subject Matter

6. Claim 8 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

7. Claims 9-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW
November 6, 2007

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11/10/07